

WHAT IS CLAIMED IS:

1. A polymeric sponge including cellulose fibers imbedded therein.
2. A sponge according to claim 1 wherein said cellulose fibers are chemically bonded therein.
3. A sponge according to claim 2 comprising a water-catalyzed prepolymer.
4. A sponge according to claim 3 wherein said polymer comprises polyurethane.
5. A sponge according to claim 3 wherein said polymer comprises polyether toluene diisocyanate polyurethane.
6. A sponge according to claim 3 comprising primarily only closed cells therein.
7. A sponge according to claim 3 excluding surfactant therein.
8. A sponge according to claim 3 further comprising abrasive particles imbedded therein.
9. A sponge according to claim 8 excluding bonding agent on said abrasive particles.
10. A sponge according to claim 8 wherein said abrasive particles are bonded in said polymer.
11. A sponge according to claim 10 wherein said cellulose fibers are dispersed in said polymer between adjacent ones of said abrasive particles.

12. A sponge according to claim 10 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzing-water, and about 1% cellulose fiber.
13. A sponge according to claim 10 comprising catalyzing-water and cellulose fiber in a weight ratio of about 2:1.
14. A sponge according to claim 10 comprising catalyzing-water less than about 2% by weight.
15. A sponge according to claim 3 wherein said polymer comprises polyether toluene diisocyanate polyurethane in a matrix comprising primarily only closed cells.
16. A sponge according to claim 15 further comprising abrasive particles bonded in said polymer, and said cellulose fibers are dispersed in said polymer between adjacent ones of said abrasive particles.
17. A sponge according to claim 16 comprising a composition by weight of about 79% abrasive particles, about 18% prepolymer, about 2% catalyzing-water, and about 1% cellulose fiber.
18. A sponge according to claim 17 excluding surfactant therein, and excluding bonding agent on said abrasive particles.
19. A polymeric sponge comprising water-catalyzed polyether toluene diisocyanate polyurethane having primarily only closed cells therein, and cellulose fibers chemically bonded in said polymer.
20. A sponge according to claim 19 excluding abrasive particles therein.

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auxiliary heating or cooling thereof during said chemical reaction.

28. A method according to claim 26 further comprising mixing abrasive particles with said prepolymer, water, and fibers for said chemical reaction thereof.

29. A method according to claim 28 wherein said particles are premixed with said prepolymer prior to mixing with said premixed water and fibers.

30. A method according to claim 29 further comprising heating said prepolymer and particles prior to mixing with said water and fibers.

31. A method according to claim 30 further comprising cooling said water and fibers prior to mixing with said prepolymer and particles.

32. A method according to claim 31 wherein said prepolymer and particles are separately heated prior to mixing thereof.

33. A method according to claim 32 wherein said prepolymer and particles are heated to about the same temperature.

34. A method according to claim 33 wherein said prepolymer and particles are heated to about 100 degrees (F).

35. A method according to claim 34 wherein said water and fibers are premixed in a weight ratio of about 2:1.

36. A method according to claim 35 wherein said water and fibers are cooled to about 55 degrees (F) prior to mixing with said heated prepolymer and particles.

37. A method according to claim 36 wherein said abrasive particles, prepolymer, water, and cellulose fibers are mixed by weight of about 79%, 18%, 2%, and 1%, respectively.
38. A method according to claim 37 wherein said prepolymer comprises polyether toluene diisocyanate polyurethane.
39. A method according to claim 31 wherein said particles are mixed with said prepolymer without a bonding agent.
40. A method according to claim 31 further comprising extruding said mixed prepolymer, particles, water, and cellulose fibers in an elongate bun atop a moving conveyer belt as said chemical reaction progresses.
41. A method according to claim 40 further comprising dispensing a plastic sheet between said bun and belt to prevent sticking of said bun to said belt.
42. A method according to claim 40 further comprising:
cutting said bun into shorter slabs at the end of said belt; and
storing said slabs for a plurality of days for final curing thereof.
43. A method according to claim 42 further comprising in turn shredding said slabs into smaller pieces, granulating said pieces into smaller granules, and classifying said granules into substantially uniform size.